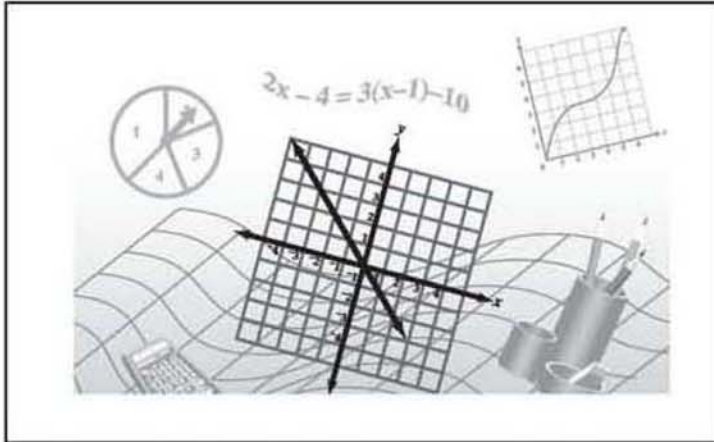


Mod-HSA



Practice Test for

Mod-HSA Biology

Welcome to the Mod-HSA Practice Test.

This sample test is designed to provide sample items and allow LEAs, Schools, and Students to review and practice samples of the types of items that will appear on the Mod-HSA Test. The items in this test are samples only, and do not cover the entire range of each content area which will be tested on the actual operational test forms.

- Section 2 is Mod-Biology (items 31-40)
[begins on page 3]

Mod-HSA

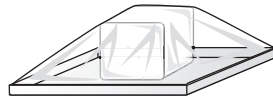


Mod-BIOLOGY

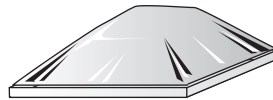


Use the information below to answer Number 31.

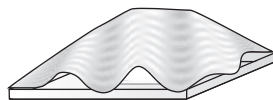
A student conducts an experiment at home to test the effect of different covers on the melting rate of ice. The student places identical ice cubes on separate trays of known mass. The student covers each tray as shown below.



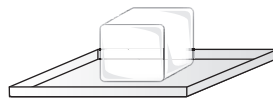
Plastic covered



Foil covered



Paper towel covered



Not covered

The trays are placed on the same table. After ten minutes, the student removes the covers, discards the excess water, and calculates the mass of each ice cube.

31 Which of these is the dependent variable in the experiment?

- A shape of each ice cube
- B mass of each ice cube
- C temperature of the ice cubes

32 Which of these should be done before beginning a laboratory investigation?

- A collect data
- B record data on tables
- C review the procedure

Use the technical passage below to answer Number 33.

EXOTIC SPECIES VERSUS NATIVE SPECIES, WHO'S WINNING?

The introduction of non-native or "exotic" organisms is thought to be responsible for about half of the endangered or threatened species in the United States. This often happens by the "crowding out effect," in which an exotic plant or animal survives better than a native organism. Exotic species usually have no natural predators or parasites in their new environments. This enables them to take over entire areas where native species used to live. Biologists call this phenomenon eco-invasion. Chris Bright, an author on this subject, says that a non-native species will establish itself by adjusting to its new surroundings. "It tends to get better and better at exploiting an area's resources and at suppressing native species," says Bright.

The island of Guam is an example of an area that has been affected. The brown tree snake was accidentally introduced to the island about 60 years ago. Since then, nine of eleven native bird species have become extinct due to overpopulation by the brown tree snake.

Another example involves the Eurasian zebra mussel. Scientists believe this mussel was accidentally transported to the United States by ships in 1988. Colonies of the zebra mussels have since caused costly damage to waterpipes around the Great Lakes.

Airplane and boat traffic across the world has been blamed for the introduction of exotic organisms. Species are usually contained in certain areas because of natural borders such as mountains, oceans, and deserts. However, natural borders are no longer effective boundaries with the increase in worldwide travel.

33 Which of these explains why the number of exotic organisms is increasing in ecosystems around the world?

- A The amount of global travel is increasing.
- B Prey organisms are increasing in number worldwide.
- C Native organisms are migrating to more remote locations.

34 Which of these correctly matches the molecule with its function?

- A lipid—stores genetic information
- B vitamin—supplies energy to cells
- C enzyme—speeds up chemical reactions

35 Which cell structure contains molecules that direct cell activities?

A nucleus

B ribosome

C mitochondrion

Use the information and the Punnett square below to answer Numbers 36 and 37.

In guinea pigs, the allele for black fur (B) is dominant. The allele for brown fur (b) is recessive. Two guinea pigs were crossed as shown in the Punnett square below.

	B	b
B	BB	Bb
B	BB	Bb

36 Which of these describes the phenotypes of the parent guinea pigs?

- A Both parents have black fur.
- B Both parents have brown fur.
- C One parent has black fur, and the other has brown fur.

37 What is the probability that an offspring from this cross would have brown fur?

A 50%

B 25%

C 0%

38 Which of these moves genetic information for making a protein to the cytoplasm?

A a ribosome

B DNA

C RNA

- 39** The ears of foxes help to regulate body heat. The fennec fox lives in the desert. It has large ears that release body heat. The Arctic fox lives in cold climates. It has small ears that conserve body heat.



Fennec Fox

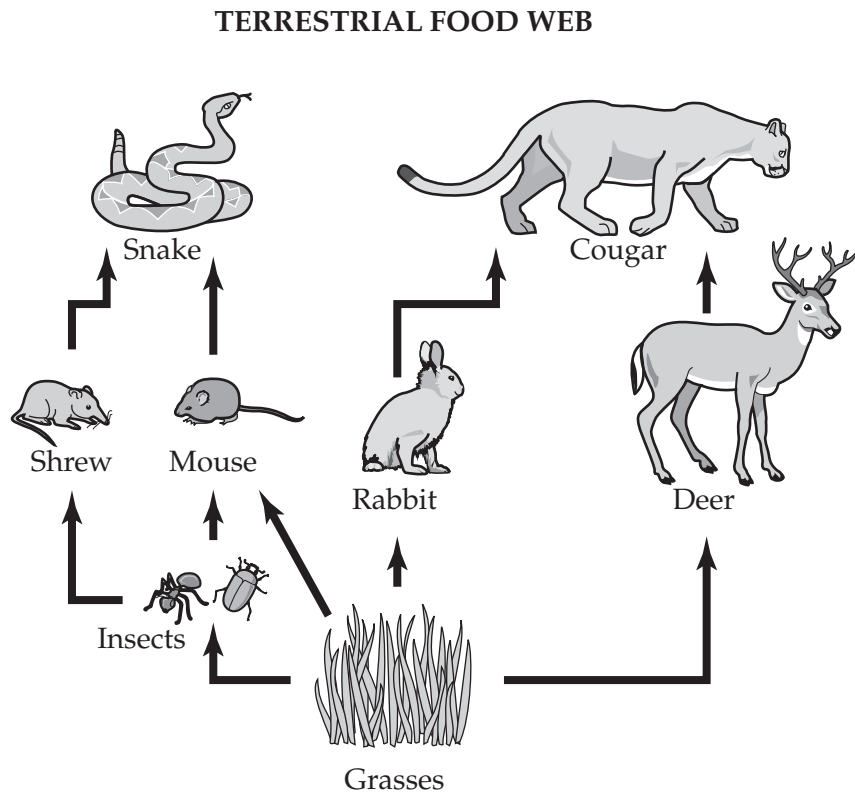


Arctic Fox

Which of these processes led to the development of different ear sizes in foxes?

- A selective breeding
- B natural selection
- C mutualism

Use the relationships in the food web below to answer Number 40.



40 Which of these organisms is a predator in the food web?

A insect

B rabbit

C shrew